

## BEST EVIDENCE TOPIC REPORTS

# Towards evidence based emergency medicine: best BETs from the Manchester Royal Infirmary

Edited by S D Carley

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Best evidence topic reports (BETs) summarise the evidence pertaining to particular clinical questions. They are not systematic reviews, but rather contain the best (highest level) evidence that can be practically obtained by busy practicing clinicians. The search strategies used to find the best evidence are reported in detail in order to allow clinicians to update searches whenever necessary. Each BET is based on a clinical scenario and ends with a clinical bottom line which indicates, in the light of the evidence found, what the reporting clinician would do if faced with the same scenario again. The BETs published below were first reported at the Critical Appraisal Journal Club at the Manchester Royal Infirmary<sup>1</sup> or placed on the BestBETs website. Each BET has been constructed in the four stages that have been described elsewhere.<sup>2</sup> The BETs shown here together with those published previously and those currently under construction can be seen at <http://www.bestbets.org>.<sup>3</sup> Four BETs are included in this issue of the journal. Where a cited paper within the article has a CA symbol attached to it, it means that a critical appraisal of that paper has been posted on the BestBETs website.

- Oral antihistamines for insect bites
- The use of vasoconstrictor therapy in non-variceal upper GI bleeds
- Water soluble small bowel follow through for adhesive small bowel obstruction
- Sudden onset single floater symptom in one eye: is urgent dilated fundal examination by an ophthalmologist warranted?

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- 1 Carley SD, Mackway-Jones K, Jones A, *et al*. Moving towards evidence based emergency medicine: use of a structured critical appraisal journal club. *J Accid Emerg Med* 1998;15:220-222.
- 2 Mackway-Jones K, Carley SD, Morton RJ, *et al*. The best evidence topic report: A modified CAT for summarising the available evidence in emergency medicine. *J Accid Emerg Med* 1998;15:222-226.
- 3 Mackway-Jones K, Carley SD. bestbets.org: Odds on favourite for evidence in emergency medicine reaches the worldwide web. *J Accid Emerg Med* 2000;17:235-6.

## Oral antihistamines for insect bites

Report by Bernard A Foëx, *Consultant in Emergency Medicine and Critical Care*  
 Checked by Caroline Lee, *SpR Midlands rotation*  
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A short cut review was carried out to establish whether oral antihistamines are effective in the management of insect

bites. In total, 994 citations were reviewed of which seven answered the three part question. The clinical bottom line is that antihistamines, used before and after, appear to be effective in reducing the immediate/early symptoms of mosquito bites in both adults and children. It is not clear whether the same antihistamine will be effective for both adults and children.

### Three part question

In [patients with previous symptomatic reactions to insect bites] are [oral antihistamines] effective in [reducing symptoms]?

### Clinical scenario

You are going on a family holiday to Scandinavia during the summer. You wonder what evidence there is that oral antihistamines will reduce the symptoms of the inevitable insect bites.

### Search strategy

Medline 1966-30.09.2005, CINAHL (R)-1982 to date 4th Oct 2005, Cochrane Library.

Medline: [(exp Insect Bites/and Stings.mp.) or insect bite\$.mp. AND exp insects/or insect\$.mp. AND (exp Bites/and Stings.mp.) or bite\$.mp. or sting\$.mp.] AND

[exp Histamine H1 Antagonists OR antihistamine\$.mp OR exp chlorpheniramine OR chlorpheniramine.mp OR exp pyrilamine OR mepyramine.mp]

CINAHL: “(INSECT-BITES-AND-STINGS#.DE. OR MOSQUITOES#.W..DE. OR BEES-AND-WASPS#.DE. OR BITES-AND-STINGS#.DE. OR INSECTS#.W..DE. OR TICKS#.W..DE. OR ARTHROPODS#.W..DE. OR TICK-BORNE-DISEASES#.DE. OR SPIDERS#.W..DE.) AND ABSTRACT = YES NOT (EXECUTIVE ADJ SUMMARY).AB. AND LG = EN”.

### Search outcome

Medline search returned 214 citations, only seven of which were clinical trials addressing the question. CINAHL search returned 780 citations. None was a trial addressing the question. Search of the Cochrane database did not find any relevant reviews.

### Comment(s)

Six of the seven trials were performed by a small group of researchers, addressing the problem of mosquito bites in Finland. Three mosquito species were studied. Inclusion criteria were not uniform; in some studies, subjects were known to have a significant reactions, in others they did not. Most studies used a crossover design; however, neither the treatment nor the washout periods were not uniform.

### ► CLINICAL BOTTOM LINE

Antihistamines, used before and after, appear to be effective in reducing the immediate/early symptoms of mosquito bites

Table

Author, date and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Coulie <i>et al.</i> <sup>1</sup> 1989 Belgium	10 healthy adult volunteers exposed to <i>Anopheles stephensi</i> mosquitoes in a laboratory.	Double blind randomized crossover trial of cetirizine 10 mg BD v placebo.	Effect on pruritus and cutaneous reaction	Reduced pruritus but not intensity or duration of cutaneous reaction	1 volunteer dropped out after a severe skin reaction to cetirizine.
Reunala <i>et al.</i> <sup>2</sup> 1991 Finland CA	27 adult volunteers exposed to <i>Aedes communis</i> mosquitoes in a forest in Southern Finland.	Double blind, placebo-controlled trial of cetirizine 10 mg od.	Effect on pruritus and cutaneous reaction	Cetirizine reduced immediate but not delayed pruritus and cutaneous skin reaction	4 subjects excluded because baseline reactions to bites were too mild.
Reunala <i>et al.</i> <sup>3</sup> 1993 Finland	28 adults with previous significant reaction to mosquito bites. Exposed to <i>Aedes communis</i> in forests in Finland	Double blind, crossover trial of cetirizine 10 mg od v placebo.	Effect on pruritus and cutaneous skin reaction	Cetirizine reduced immediate pruritus and cutaneous reaction	Subjects were patients and hospital employees. Field studies in 2 different forests. No washout period. All subjects allowed to use 1% hydrocortisone cream. Only 18 subjects completed the study.
Reunala 1997 Finland CA	30 volunteers, all sensitive to mosquito bites. Exposure to <i>Aedes aegypti</i> in the laboratory.	Double blind, crossover of ebastine (10 mg or 20 mg) v placebo.	Effect on pruritus and cutaneous reaction	Ebastine reduced immediate pruritus and cutaneous reaction	Only 25 subjects evaluable because of trial violations (2) and possible adverse events (2)... numbers don't add up, I know.
Karppinen <i>et al.</i> <sup>4</sup> 2000 Finland	28 children (2–11 years), sensitive to mosquito bites. Exposure to <i>Aedes aegypti</i> mosquitoes in the laboratory.	Double blind, crossover of 0.3 mg/kg loratadine v placebo	Effect on immediate and delayed cutaneous reaction, and immediate pruritus	Loratadine reduced cutaneous reaction and pruritus	25 completed the study. Only 12 evaluated pruritus on a visual analogue scale.
Karppinen <i>et al.</i> <sup>5</sup> 2000 Finland	28 mosquito allergic adults exposed to <i>Aedes communis</i> in forests in Finland.	Double blind, crossover study of ebastine 20 mg od v placebo.	Effect on pruritus and cutaneous reaction	Reduced immediate cutaneous reaction and both immediate and delayed pruritus.	Different forest sites.
Karppinen <i>et al.</i> <sup>6</sup> 2002 Finland	29 adults, sensitive to mosquito bites, exposed to <i>Aedes aegypti</i> in the laboratory.	Double blind, crossover study comparing cetirizine 10 mg, ebastine 10 mg, loratadine 10 mg and placebo.	Effect on pruritus and cutaneous reaction	Cetirizine and ebastine reduced immediate cutaneous reaction and pruritus compared with placebo. Loratadine seemed ineffective	27 subjects completed the study. Dose of loratadine probably too low, given dose used in paediatric study (above).

od, once daily.

in both adults and children. It is not clear whether the same antihistamine will be effective for both adults and children.

**1 Coulie P**, Wery M, Ghys L, *et al.* Pharmacologic modulation by cetirizine-2 HCl of cutaneous reactions and pruritus in man after experimental mosquito bites. *Skin Pharmacol* 1989;2:38–40.

**2 Reunala T**, Lappalainen P, Brummer-Korvenkontio H, *et al.* Cutaneous reactivity to mosquito bites: effect of cetirizine and development of anti-mosquito antibodies. *Clinical and Experimental Allergy* 1991;21:617–622.

**3 Reunala T**, Brummer-Korvenkontio H, Karppinen A, *et al.* Treatment of mosquito bites with cetirizine. *Clinical and Experimental Allergy* 1993;23:72–75.

**4 Reunala T**, Brummer-Korvenkontio H, Petman L, *et al.* Effect of ebastine on mosquito bites. *Acta Derm Venereol* 1997;77:315–316.

**5 Karppinen A**, Kautiainen H, Reunala T, *et al.* Loratadine in the treatment of mosquito-bite-sensitive children. *Allergy* 2000;55:668–671.

**6 Karppinen A**, Petman L, Jekunen A, *et al.* Treatment of mosquito bites with ebastine: A field trial. *Acta Derm Venereol* 2000;80:114–116.

**7 Karppinen A**, Kautiainen H, Petman L, *et al.* Comparison of cetirizine, ebastine and loratadine in the treatment of immediate mosquito-bite allergy. *Allergy* 2002;57:534–537.

## The use of vasoconstrictor therapy in non-variceal upper GI bleeds

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A short cut review was carried out to establish whether vasoconstrictor therapy is indicated for patients who present

with an acute upper gastrointestinal (GI) bleed without known oesophageal varices. In total, 1123 citations were reviewed, of which 16 answered the three part question. The clinical bottom line is that somatostatin (SST) should be considered in unwell patients who are likely to be bleeding secondary to peptic ulcer disease (PUD) until definitive endoscopy, or in situations when endoscopy is contra-indicated or unavailable. There is no definitive evidence for the length of time treatment should continue.

### Three part question

[In patients with acute severe non variceal upper GI bleed] is [the use of vasoconstrictor therapy] indicated [to control bleeding and prevent re-bleeding].

### Clinical scenario

A 65 year old man presents to the ED with a large, fresh upper GI bleed. He has a history of non-steroidal anti-inflammatory drug (NSAID) use and complains of increasing indigestion over the last few months. On examination, he has no stigmata of chronic liver disease and is unwell with blood pressure (BP) of 80 mmHg systolic and tachycardia of 140mmHg. In view of his history and lack of positive examination findings you feel that the most likely diagnosis is a bleeding peptic ulcer. You wonder if there is any evidence to support the use of vasoconstrictor therapy in non-variceal upper GI bleeds.

### Search strategy

Medline (Ovid interface)1966–2006: {upper gi bleed.mp. OR exp Gastrointestinal Hemorrhage/or exp Hematemesis/OR haematemesis.mp. OR hematemesis.mp. OR gastrointestinal adj5 haemorrhage.af. OR gastrointestinal adj5 hemorrha-